NOTE ON THE ANATOMY OF *ZONITES ROLLEI*, Kobelt.

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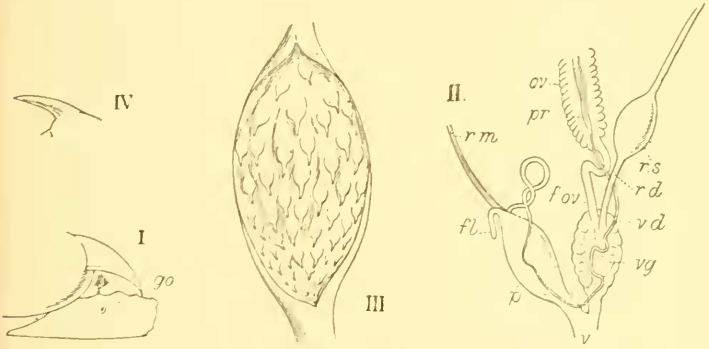
Read 8th December, 1899.

In a collection of Land Mollusca which the Council of the Birmingham Natural History and Philosophical Society have recently placed in my hands for investigation, there are two or three examples of *Zonites Rollei*, Kob., from the Island of Meis, Asia Minor. Since no part of the anatomy of this species has yet been described, the following note may be of interest, and may possibly help to more definitely locate the species.

Viewed externally, the generative orifice is seen to be situated on the right side of the body about 9·5 mm. posterior to the right upper tentacle (Fig. I, *g.o.*). This leads into a small vestibule, which, looked at with the animal's head towards the observer, is seen to have a small



Zonites Rollei, Kobelt.

Fig. I.—Outline of anterior portion of the right side, showing position of the generative orifice. *g.o.*

Fig. II.—Terminal ducts of the generative organs. *vg.* vagina, *v.* vestibule, *v.d.* vas-deferens, *r.d.* receptacular duct, *r.s.* receptacular seminis, *f.ov.* free oviduct, *ov.* oviduct, *pr.* prostate, *p.* penis, *fl.* flagellum, *r.m.* retractor muscle.

Fig. III.—View of the internal wall of the penis.

Fig. IV.—Spine from internal wall of the penis, enlarged.

opening on each side of the cavity. That on the right side leads into a wide tube, the vagina. Externally the vagina appears much larger than the lumen; the outer side of its walls has a glandular appearance and seems to be densely folded (Fig. II, *vg.*).

The receptaculum seminis in life is closely attached to the common duct, and completely hides the prostatic portion. The receptacular

duct opens into the vagina on its dorsal side. It is a long, narrow duct, and expands into a wide sac, the receptaculum seminis, which distally terminates as a long, blind tube (Fig. II, *r.d.* and *r.s.*). The free oviduct is folded upon itself; distally it opens into the oviducal portion of the common duct, and proximally into the distal end of the vagina. The common duct is richly saculated and almost straight.

The opening on the left side of the vestibule leads into the penis, a large, oval-shaped, thick-walled sac. The internal structure of this organ is interesting. The walls are thrown into a series of ill-defined plications, and along these, arranged at varying distances, are a series of minute spines, with their sharp-pointed, free ends directed towards the opening at the proximal end. They attain their greatest dimensions at about the middle of the sac, becoming almost invisible to the naked eye at the extreme proximal and distal portions (Fig. III). Examined under a low power of the microscope, each spine is seen to consist of a sharp chitinous body imbedded at one end in a muscular cushion (Fig. IV). At the distal end of this sac is a small penis papilla and the opening of the vas-deferens.

The penis has a small flagellum at its distal end (Fig. II, *fl.*). The retractor muscle is inserted in the wall of the ventral side. That portion of the vas-deferens immediately following the penis is a fairly wide tube, and is folded upon itself in the form of a figure 8 (Fig. II); it soon, however, becomes smaller, lies close to the dorsal wall of the penis and vagina, and, passing beneath the receptacular duct and above the free oviduct, enters the prostatic portion of the common duct.